

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated February 12, 2007 (U.S. Patent Office Paper No. 20070207). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-2 stand for consideration in this application, wherein claim 3 is being canceled without prejudice or disclaimer.

Additional Amendments

The specification and abstract are being amended to correct formal errors and to better disclose and describe the features of the present invention as claimed. All amendments to the application are fully supported therein. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Formal Objections or Rejections

The Examiner rejected claim 3 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. As outlined above, claim 3 is being canceled without prejudice or disclaimer. Thus, Applicants will submit that this rejection is hereby rendered moot.

Prior Art Rejections

The Examiner rejected claims 1-2 under 35 U.S.C. §102(b) as being anticipated by Zare et al. (US Patent No. 4,675,300). Also, the Examiner rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Zare '300 in view of Chu et al. (US Patent No. 6,001,232). Applicants have reviewed the above-outlined prior art rejections and hereby respectfully traverse.

The present invention as recited in claim 1 is directed to an electrophoresis apparatus comprising: a plurality of capillaries; a voltage applier applying voltage between both ends of the capillaries; a laser light source irradiating a laser; and a fluorescent detector detecting a

fluorescence emitted from inside of the capillaries. Each of the capillaries comprises a first region where it is coated with a polymer, a second region where a surface of the capillary being exposed for a predetermined length in the longitudinal direction, and a third region provided between the first and second regions, covered with a tapered polymer coating whose thickness becomes thinner from the first region to the second region, wherein a slope of the surface of the coating of the third region makes an angle of 70 degrees or less with the longitudinal direction of the capillary.

Among the features of the present invention, each capillary has first, second and third regions with the third region being between the first and second regions and covered with a tapered polymer coating as recited in claim 1 hereinabove and as illustrated in Figure 10B. This structure has the advantage of preventing stresses from concentrating on the glass tube of the capillary tube at the edge of the coating when the capillary tube is bent after the windows are processed, thereby solving the problem of easy breakage caused by a concentration of stresses at the edge of the coating upon bending the capillary tube. In other words, the tapered coating serves like a cable holder for connectors or grommets used for electric wiring (see page 21, lines 1-11).

In contrast to the present invention, the reference of Zare '300 merely shows a fused-silica capillary 30 that has an opaque polyimide protective coating 31 on its outer surface that is removed with flame in order to produce a translucent section 32 (see col. 3, lines 32-37). In other words, this structure of Zare '300 is nothing more than the conventional structure discussed in the present application on, for example, page 20, lines 4-9 and illustrated in Figure 10C, and thus embodies the deficiency in the prior art that the present invention is directed to solving. In particular, the structure of Zare '300 suffers from easy breakage caused by the concentration of stresses at the edge of the coating when the capillary tube is bent. This deficiency is a result of Zare '300 failing to embody any structure that includes, among other features, a first region where it is coated with a polymer, a second region where a surface of the capillary being exposed for a predetermined length in the longitudinal direction, and a third region provided between the first and second regions, covered with a tapered polymer coating whose thickness becomes thinner from the first region to the second region, wherein a slope of the surface of the coating of the third region makes an angle of 70 degrees or less with the longitudinal direction of the capillary, as in the present invention as claimed. Rather, because the polyimide coating 31 is removed conventionally by flame, the resulting structure is at best the same as the conventional structure illustrated in Figure 10C of the present application, with all the deficiencies commensurate therewith.

As such, Zare '300 cannot by itself anticipate each and every feature nor the combination of features of the present invention as claimed. The present invention as a whole is distinguishable and thereby allowable over Zare '300.

With respect to the secondary reference of Chu '232, again as outlined above, claim 3 is being canceled without prejudice or disclaimer. Thus, Applicants will submit that this rejection is also hereby rendered moot.

Double Patenting Rejection

The Examiner provisionally rejected claims 1-3 under non-statutory obviousness-type double-patenting as being unpatentable over claims 1-6 of US Patent App. No. 10/897,099 in view of Zare '300. A terminal disclaimer is being submitted in connection with the above-noted co-pending application, thereby obviating this double-patenting rejection.

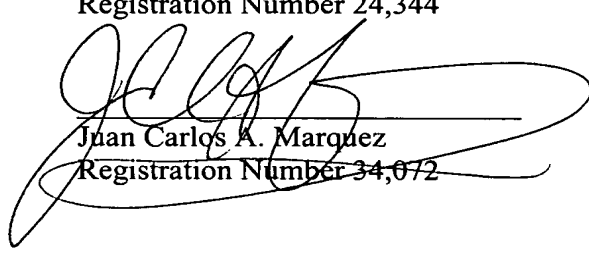
Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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